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The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo on Omaha and Nebraska

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A Bureau of Business Research Report
From the University of Nebraska—Lincoln

Final Report

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo on Omaha and Nebraska

Prepared for the Omaha Zoo Foundation

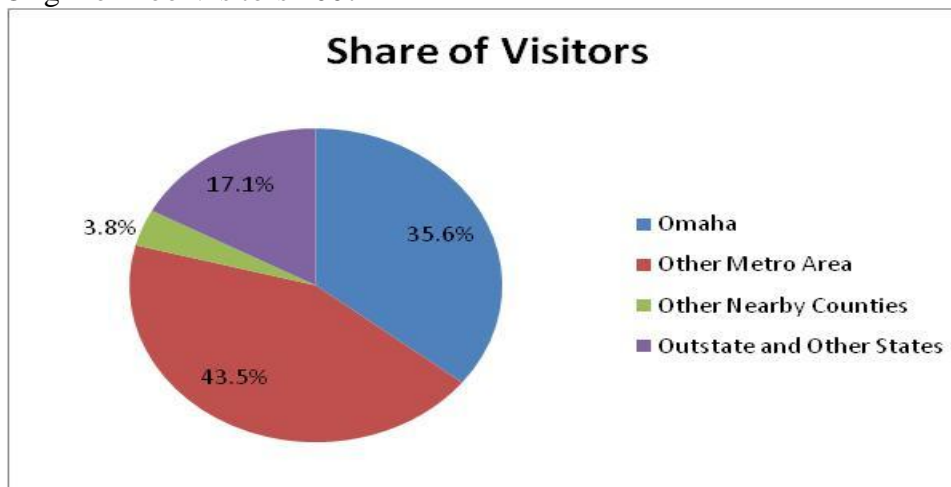
May 15, 2008
Bureau of Business Research
Department of Economics
College of Business Administration
University of Nebraska—Lincoln
Dr. Eric Thompson, Director

Executive Summary

The City of Omaha, and the State of Nebraska, benefit from the presence of a leading national zoo in the city. The nationally-known Henry Doorly Zoo makes a significant contribution to the Omaha economy. The Zoo attracted over 1.3 million visitors, and their spending, in 2007 including many visitors from outside of Omaha and outside of the State of Nebraska. The Zoo also makes a significant contribution to the quality of life in Omaha and Nebraska, and by many indicators, Omaha's Henry Doorly Zoo is among the largest, and most affordable zoos to visit in North America.

This study estimates the economic impact of Omaha's Henry Doorly Zoo during 2007. The Zoo generated an economic impact on the city and state economy by 1) attracting new visitors to Omaha and Nebraska, 2) encouraging existing visitors to spend more, and 3) retaining spending by city and state residents in Nebraska. The economic impact of the Zoo is large in part because a significant share of visitors to Omaha's Henry Doorly Zoo comes from outside of the Omaha Metropolitan Area. Figure ES.1 shows the origin of the Henry Doorly Zoo's 1.33 million visitors during calendar year 2007. Around one-sixth of visitors come from other states such as Kansas or South Dakota, or from "outstate" Nebraska and Iowa, that is, counties that are not adjacent to the Omaha Metropolitan Area.

Figure ES.1
Origin of Zoo Visitors 2007



Source: Omaha's Henry Doorly Zoo.

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

Omaha's Henry Doorly Zoo had a substantial economic impact on Omaha during 2007, as is shown in Table ES.1. The 2007 overall economic impact on the City of Omaha was \$86.3 million. This impact included \$31.1 million in labor income paid to 1,205 workers employed either at the Zoo or at businesses throughout the Omaha economy. There also was \$1.4 million in local sales, use, and lodging taxes generated.

Table ES.1
Overall Economic Impact and Labor Market Impact
of the Henry Doorly Zoo 2007
City of Omaha

Economic Impact (Millions of \$)	Labor Income Component (Millions of \$)	Employment Impact (Jobs)	Local Sales, Use and Lodging Tax (Millions of \$)
\$86.34	\$31.07	1,205	\$1.39

Source: Bureau of Business Research Estimates.

The other major findings of the report were:

- The 2007 overall economic impact of the Zoo on the State of Nebraska was \$74.5 million, including \$24.8 million in labor income. There was also \$3.6 million in state sales, use, and lodging taxes generated.¹
- The amenity value for local and state residents from nearby access to the Henry Doorly Zoo was estimate at approximately \$29.3 million for residents of Omaha, and \$47.5 million statewide.
- The 2007 economic impact estimates are consistent with the economic impact of the Zoo during the 1998 to 2006 period, but below the impact during the “peak” years of 2002 and 2004.

¹ Zoo visitors from communities such as Grand Island or North Platte bring new spending to the City of Omaha but do not bring new spending to the State of Nebraska. This is why it is not surprising that the economic impact of the Zoo on the State of Nebraska is slightly less than its impact on the City of Omaha.

Table of Contents

I.	Introduction.....	1
II.	Economic Impact Methodology.....	2
III.	Economic Impact on Omaha.....	3
	A. Zoo Operations.....	3
	B. Zoo Construction Projects.....	6
	C. Off-Site Spending of Zoo Visitors.....	6
	D. Overall Economic Impact.....	11
IV.	Economic Impact on the State of Nebraska.....	12
V.	Other Benefits.....	14
	A. Scholarship Program.....	14
	B. Benefits for Quality of Life.....	15
VI.	Economic Impact in Past Years.....	17
VII.	Conclusions.....	20

List of Figures and Tables

Figure ES.1	Origin of Zoo Visitors 2007.....	i
Table ES.1	Overall Economic Impact and Labor Market Impact of the Henry Doorly Zoo 2007 City of Omaha.....	i
Figure 1	Approach for Calculating the 2007 Economic Impact of the Henry Doorly Zoo on the City of Omaha.....	4
Figure 2	Total Economic Impact of Zoo Operations 2007 City of Omaha.....	5
Figure 3	Total Economic Impact from Zoo Investment Spending 2007 City of Omaha.....	6
Figure 4	Classification of Counties.....	7
Table 1	Origin of Zoo Visitors 2007.....	8
Table 2	Visitor Spending By Origin.....	8
Figure 5	Total Economic Impact of New Off-Site Spending City of Omaha.....	10
Figure 6	2007 Overall Economic Impact of Henry Doorly Zoo City of Omaha....	11
Table 3	Labor Income and Employment Component of Economic Impact of the Henry Doorly Zoo 2007 City of Omaha.....	12
Figure 5	2007 Overall Economic Impact of Henry Doorly Zoo State of Nebraska.....	13
Table 4	Labor Income and Employment Component of Economic Impact of the Henry Doorly Zoo 2007 State of Nebraska.....	14
Table 5	Activity in Scholarship Program.....	15
Table 6	Attendance, Revenue, and Construction Activity.....	18
Figure 8	Economic Impact of the Henry Doorly Zoo 1998-2006 City of Omaha.	18
Table 7	Labor Income and Employment Component of Economic Impact of the Henry Doorly Zoo 1998-2006 City of Omaha.....	19
Table 8	Labor Income and Employment Component of Economic Impact of the Henry Doorly Zoo 1988-2006 State of Nebraska.....	20

I. Introduction

Recreation is an increasingly important part of urban economies and a highly competitive industry. One key to success in the industry is a city's attractions. Cities with high quality attractions are able to capture new spending from out of town visitors, and retain more entertainment spending from its own population.

The City of Omaha, and the State of Nebraska, benefit from the presence of a leading national zoo in the city. The nationally-known Henry Doorly Zoo makes a significant contribution to the Omaha economy. The Zoo attracted over 1.3 million visitors in 2007 including many visitors from outside of Omaha and outside of the State of Nebraska. Spending by these visitors has a substantial economic impact on the City of Omaha and the State of Nebraska. The Zoo also makes a significant contribution to the quality of life in Omaha and Nebraska by offering a high quality cultural and recreational amenity to families, by contributing to educational programs, and by providing employment and scholarship opportunities to young residents of the city and state. By many indicators, Omaha's Henry Doorly Zoo is among the largest, and most cost-effective zoos in North America. Omaha's Henry Doorly Zoo is the 20th largest Zoo (out of 62) in terms of acreage,² has the 2nd largest number of animal species and the largest number of animal specimens. Henry Doorly Zoo has the 2nd largest number of animals per employee and is 15th lowest cost per visitor. For all of these reasons, Henry Doorly Zoo has the 5th largest number of Membership households even though Omaha is ranked 53rd largest (out of 62) in terms of metropolitan area population.

With all of these benefits, there is a need to periodically measure and report the annual economic impact of Omaha's Henry Doorly Zoo on Omaha and the State of Nebraska. The Omaha Zoological Foundation contracted with the UNL Bureau of Business Research (BBR) to estimate the annual economic and fiscal impact of the Henry Doorly Zoo in 2007. This report outlines the BBR's approach and the impact estimates for 2007, and in the proceeding 10 years from 1998 to 2006. The report also provides a description and estimate of the quality of life benefits generated by the Zoo.

² American Zoological Association 2007 Benchmarks for Zoos with Annual Budgets of \$5 million and Above.

Section II of the report describes the basic methodology utilized in economic impact analysis. The 2007 economic impact of the Henry Doorly Zoo on the City of Omaha is estimated in Section III. Section IV contains the estimate of the statewide economic impact for 2007. Section V considers other benefits of the Zoo for the economy including the value of scholarships provided to zoo workers, and the 2007 value of the Zoo as an amenity for local and state residents. Section VI provides estimates of the economic impact of the Henry Doorly Zoo in past years, from 1998 through 2006. The conclusion is presented in Section VII.

II. Economic Impact Methodology

The first step in estimating the economic impact of Omaha's Henry Doorly Zoo is to estimate the direct increase in spending in Omaha due to the Zoo. This increase in spending is known as the direct impact. There is also an additional "multiplier" effect at businesses throughout Omaha as the initial spending circulates within the local economy. For example, the multiplier effect occurs in part as the Zoo purchases services locally such as accounting services, legal services or supplies. The multiplier effect also occurs as Zoo employees spend their paychecks throughout the local economy on typical household expenditures such as food, health care, housing, insurance, apparel, and entertainment. Thus the multiplier effect captures how businesses throughout the Omaha economy gain from the money attracted to Omaha by the Henry Doorly Zoo.

In Section III below, the BBR will utilize the IMPLAN model to estimate these economic multiplier effects for each type of direct new spending attracted to the city by the Henry Doorly Zoo.³ The calculated multiplier effect is then added to the direct impact to estimate the total economic impact.

There are three types of new spending attracted to or retained in Omaha due to the Zoo: 1) on-site spending by Zoo visitors that supports Zoo operations, 2) Zoo construction projects, and 3) off-site spending by Zoo visitors. The first component is on-site visitor spending at the Zoo that supports Zoo operations. This includes admissions and memberships as well as other spending at the Zoo such as carousel rides, restaurant

³ The IMPLAN model software is the leading multiplier model with capacity to estimate the economic impact of businesses and organizations in over 400 industries, in cities, counties, states, or combinations of counties.

and gift shop purchases, and the IMAX theatre. The second component of economic impact is the construction projects at the Zoo to build new exhibits and infrastructure. These projects vary from year to year but the Henry Doorly Zoo invests millions of dollars, and in some years more than \$10 million dollars on these construction projects. The third component of the economic impact is the off-site purchases made by visitors to the Zoo. Visitors who are attracted to Omaha to visit the Zoo, or who extend their stay in Omaha because of the Zoo make off-site purchases on lodging, at restaurants, retail stores, or on other types of entertainment or recreation during their trip. This spending directly supports these types of businesses and yields an economic impact on the community.

As seen Figure 1, a total economic impact estimate will be generated for each of the three types of spending. The total economic impact for each component is the sum of the direct spending impact and the multiplier effect. The overall economic impact of the Henry Doorly Zoo is the sum of the total economic impact from each of these three components. While Figure 1 describes how the economic impact is estimated for the City of Omaha, a similar approach is used to estimate the statewide economic impact in Section IV.

III. Economic Impact on Omaha

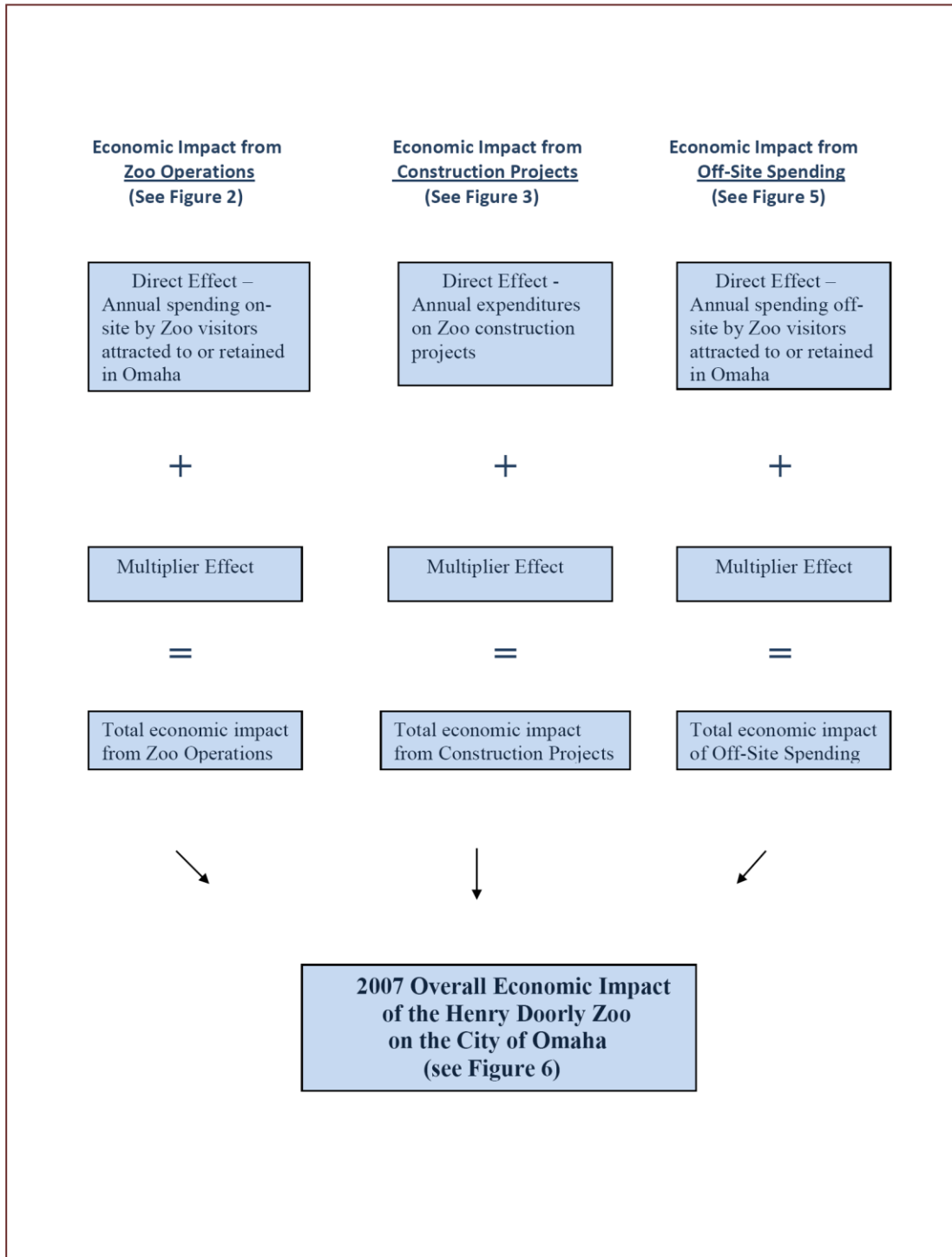
In this section, we estimate the economic impact of the Henry Doorly Zoo on the City of Omaha in 2007. The total economic impact is estimated for: 1) on-site spending by Zoo visitors that supports operations, 2) Zoo construction projects, and 3) off-site spending of Zoo visitors. The overall economic impact is the sum of the impact from all three components. In addition to estimating the overall economic impact, we examine the labor market impact, including the impact on employment and labor income.

A. Zoo Operations

The first part of the economic impact of the Henry Doorly Zoo comes from “new” on-site spending by Zoo visitors that support Zoo operations. The term “new” refers to spending by visitors who come to Omaha primarily to visit the Zoo, other visitors who

Figure 1

Approach for Calculating the 2007 Economic Impact of the Henry Doorly Zoo on the City of Omaha



The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

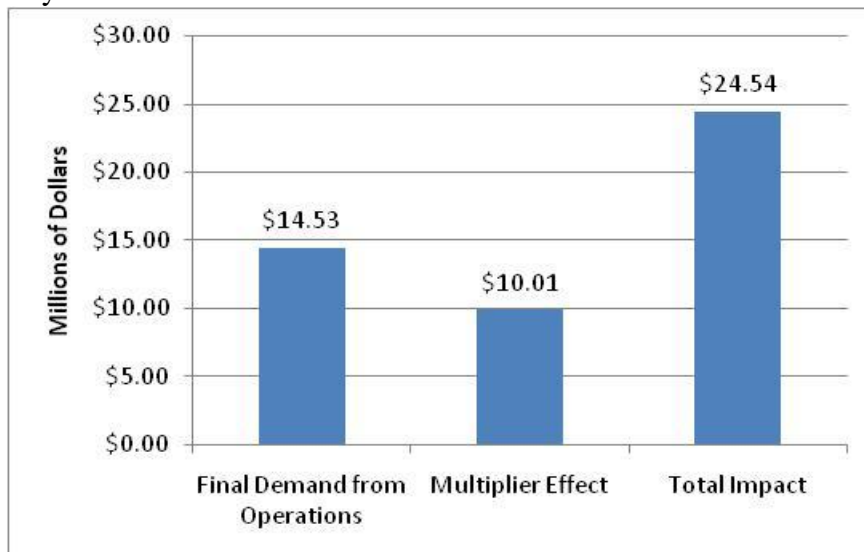
stay in Omaha longer because of the Zoo, or Omaha residents who visit the Henry Doorly Zoo rather than traveling to a zoo in another city. Such on-site spending is substantial given that most revenue at the Henry Doorly Zoo is earned revenue, that is, revenue from admissions, memberships, the IMAX theatre, restaurants, gift shops, and train rides.

This new spending supports Zoo operations such as spending for the feeding and caring for animals, making displays available to the public, operating Zoo trains and carousels, and buying supplies for concessions, restaurants, or the IMAX theatre. Further, most on-site spending at the Henry Doorly is new spending attracted to the Omaha area.

In 2007, the Henry Doorly Zoo took in roughly 20 million in earned revenue. We estimate that only about 30% of that revenue was earned from the expenditures of Omaha residents (who otherwise would have spent that money elsewhere in Omaha). Therefore, an estimated \$14.53 million, or 70%, was new spending for Omaha. This increase, which is also known as the final demand, leads to an economic impact from Zoo operations.

Figure 2 shows the economic impact from operations in 2007. The left bar of the column shows the estimated increase in final demand of \$14.53 million. The Figure also shows the multiplier effect. The total impact is the sum of the final demand and the multiplier effect. The estimated total economic impact on the Omaha economy was \$24.54 million.

Figure 2
Total Economic Impact of Zoo Operations 2007
City of Omaha



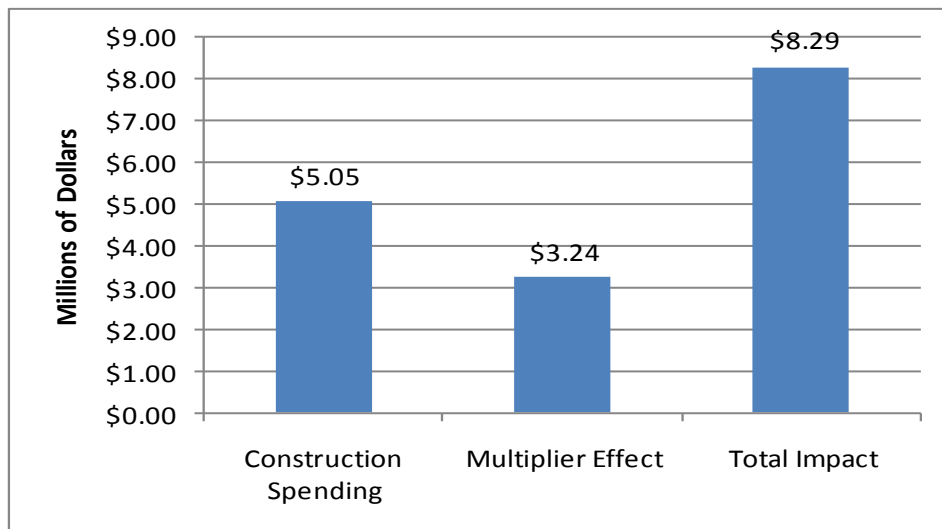
Source: Bureau of Business Research Estimates Using IMPLAN Model

B. Zoo Construction Projects

The Henry Doorly Zoo is constantly upgrading its facilities and adding new exhibits. These investment activities create new final demand for construction activity in Omaha. Over the last 10 years, spending on new construction projects at the Zoo has averaged more than \$8 million per year. However, the amount of investment was somewhat lower in 2007, at \$5.05 million. This spending figure for 2007 is utilized in the current study, which is focused on 2007 impacts. This is a substantial direct effect on the Omaha economy which yields a significant multiplier effect.

Figure 3 shows the economic impact due to this 2007 construction spending. The left bar of the Figure shows the direct investment spending of \$5.05 million. The Figure also shows the multiplier effect, and the total economic impact. The total economic impact on the City of Omaha is estimated at \$8.29 million for 2007.

Figure 3
Total Economic Impact from Zoo Construction Spending 2007
City of Omaha



Source: Bureau of Business Research Estimates Using IMPLAN Model

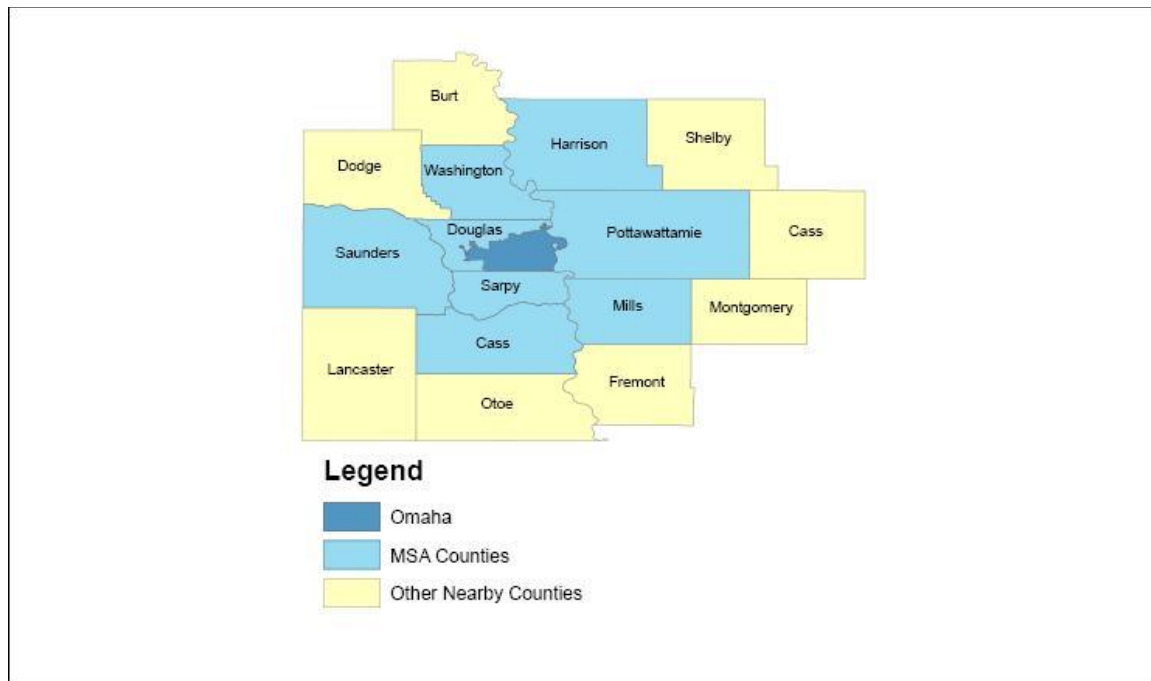
C. Off-Site Spending of Zoo Visitors

There were more than 1.3 million visits to Omaha's Henry Doorly Zoo during 2007. Many of these visitors spent money off-site in the Omaha economy at area restaurants, gas stations, retail outlets, and in some cases, at area hotels. Much of this off-site spending represents new spending attracted to the Omaha area by the Henry Doorly

Zoo, particularly since the majority of Zoo visitors reside outside of the City of Omaha. This section of the economic impact analysis estimates the amount of off-site spending by Zoo visitors, and also determines how much off-site spending represents new money attracted into the Omaha economy.

There were 1.33 million visitors to Henry Doorly Zoo during 2007. Spending by visitors varies based on how far they travel to the Zoo. As a result, we examine the origin of these visitors; in particular, the share of visitors from the City of Omaha, the share from other counties within the Omaha Metropolitan Statistical Area (MSA), the share from other nearby counties, and the share from “outstate” Nebraska or Iowa or from other states. These data on the origin of visitors are gathered annually by the Henry Doorly Zoo by obtaining the zip code of residence for a sample of Zoo visitors as they enter the Zoo over the course of the year. Figure 4 shows all counties located in the Omaha MSA and all counties classified as other nearby counties.

Figure 4
Classification of Counties



The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

Over one-third of visitors (35.6%) to the Henry Doorly Zoo in 2007 were from the City of Omaha, and 43.5% of 2007 visitors were from other parts of Douglas County and other counties in the Omaha MSA such as Sarpy County, Nebraska or Pottawattamie County, Iowa. A small share (3.8%) of visitors resided in other nearby counties just beyond the Omaha MSA border such as Lancaster County, Nebraska (City of Lincoln). Approximately one-sixth (17.1%) were from “outstate” Nebraska or Iowa, or were from another state such as Missouri, South Dakota, or Minnesota.

Table 1
Origin of Zoo Visitors 2007

Location	Share of Visitors
Omaha	35.6%
Other MSA	43.5%
Other Nearby	3.8%
Outstate and Other States	17.1%

Source: Omaha's Henry Doorly Zoo

Table 2 shows the estimated off-site spending attracted to the City of Omaha by each visitor to the Henry Doorly Zoo. Separate estimates are developed for visitors from the four geographies: 1) the City of Omaha, 2) other parts of the Omaha MSA, 3) other nearby counties that are adjacent to the MSA⁴, and 4) all other (outstate) Nebraska and Iowa counties and all other states.

Most Zoo visitors who live in City of Omaha do not bring new money to the City. Their spending at restaurants, gasoline stations, retail stores, or elsewhere on the day they visited the Zoo likely would have occurred in Omaha in any case. For these visitors, the Zoo is not attracting any new money to the City.

Table 2
Visitor Spending By Origin

Location	Spending Per visitor Per Trip
Omaha	\$13.04
Other MSA	\$17.07
Other Nearby	\$18.95
Outstate and Other States	\$90.80

Source: Bureau of Business Research Estimate

⁴ “Nearby” counties include Lancaster, Otoe, Dodge, and Burt counties in Nebraska, and Shelby, Cass, Montgomery, and Fremont counties in Iowa.

However, the Zoo does help retain some spending in the City of Omaha. In particular, some Zoo visitors from Omaha would have traveled outside of Omaha to visit a zoo in another city if there was not a zoo in Omaha. This represents “retained” spending. This spending would have occurred outside of Omaha if not for the Zoo. To estimate retained spending, the Bureau of Business Research analyzed the attendance rates, that is, the number of visitor days per resident, of Omaha and three cities situated 100 to 200 miles from Omaha: Kearney, Nebraska, Sioux City, Iowa, and Des Moines, Iowa. This data was available from surveys conducted by Zoo staff and interns. Analysis of the data revealed that residents of three cities were only 14% as likely to visit the Henry Doorly Zoo as residents of Omaha.

This finding implies that only 14% of Omaha residents would travel several hundred miles to visit a zoo in another city. Utilizing this 14% figure, and assuming the mix of day trips and overnight trips found in visitors to Omaha's Henry Doorly Zoo, we estimate that there is \$13.04 in retained off-site spending for each visitor to the Henry Doorly Zoo from the City of Omaha, as is indicated in Table 2.

Off-site spending estimates were even higher for Zoo visitors from outside of the City of Omaha, particularly for visitors from outstate Nebraska and Iowa, or from other states. New spending varied by type of visitor, however. Visitors from elsewhere within the Omaha MSA, or nearby counties, came to Omaha for the day while visiting Omaha's Henry Doorly Zoo.⁵ These visitors, on average, would make off-site purchases of meals or retail in Omaha during their visit. We estimated average spending of \$17.07 and \$18.95 per visitor, as seen in Table 2, based on Zoo visitor spending estimates from studies of zoos in Milwaukee, Cincinnati, and Northwest Florida.⁶

New visitors from outstate Nebraska and Iowa, or from others states, generated much higher levels of new spending for the City of Omaha. Results from a zoo survey

⁵ Surveys conducted by Henry Doorly Zoo staff indicated that nearly all visitors from other parts of the Omaha MSA or nearby counties came to Omaha primarily to visit the Henry Doorly zoo, visited for the day and drove home.

⁶ Institute for Survey Policy and Research, University of Wisconsin-Milwaukee, 2007. *Economic Impact of the Milwaukee County Zoo* (March).

Economics Center for Education and Research, University of Cincinnati, 2007. *The Economic Impact of the Cincinnati Zoo & Botanical Garden on Greater Cincinnati* (September).

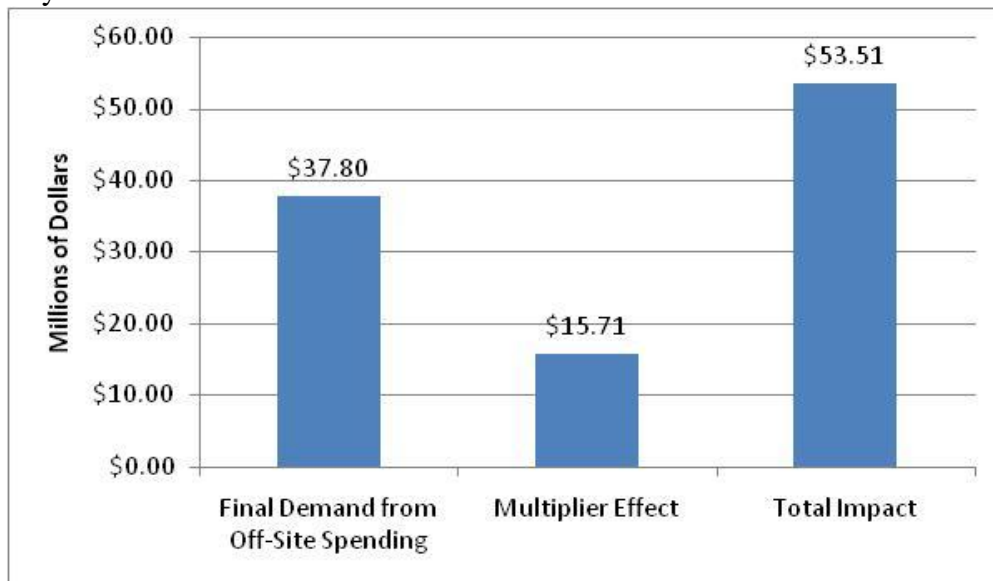
Haas Center for Business Research and Economic Development, University of West Florida, 2004. *The Economic Impact of the ZOO on the Northwest Florida Regional Economy* (March).

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

indicate that approximately half of these visitors came to Omaha primarily to visit the Zoo. All spending by these visitors while in Omaha can be attributed to the Zoo. The other half of visitors primarily came to Omaha for other reasons, such as to visit friends and family or for business. But, research from Northwest Florida indicates that many of these visitors stay longer when visiting a zoo, by an average of almost one additional day. Spending in Omaha during this extra time can be attributed to the Henry Doorly Zoo. Based on this information, and the average daily spending of out-of-town Zoo visitors of approximately \$80 from the studies in Milwaukee, Cincinnati, and Northwest Florida, we estimate the off-site spending of out-state visitors to the Henry Doorly Zoo was \$90.80 (including multi-day visitors, and visitors who stayed with friends and family rather than a hotel).

The per visitor spending figures in Table 2 suggest a substantial off-site spending impact from visitors to the Omaha Zoo, particularly given the large number of visitors each year. There were 1.33 million visitors to the Omaha Zoo during 2007. Based on the data in Tables 1 and 2, we estimate an increase in new off-site spending in Omaha of \$37.8 million due to 2007 visitors to the Henry Doorly Zoo. The total impact from new off-site spending is the sum of this \$53.5 million, as seen in Figure 5.

Figure 5
Total Economic Impact of New Off-Site Spending
City of Omaha

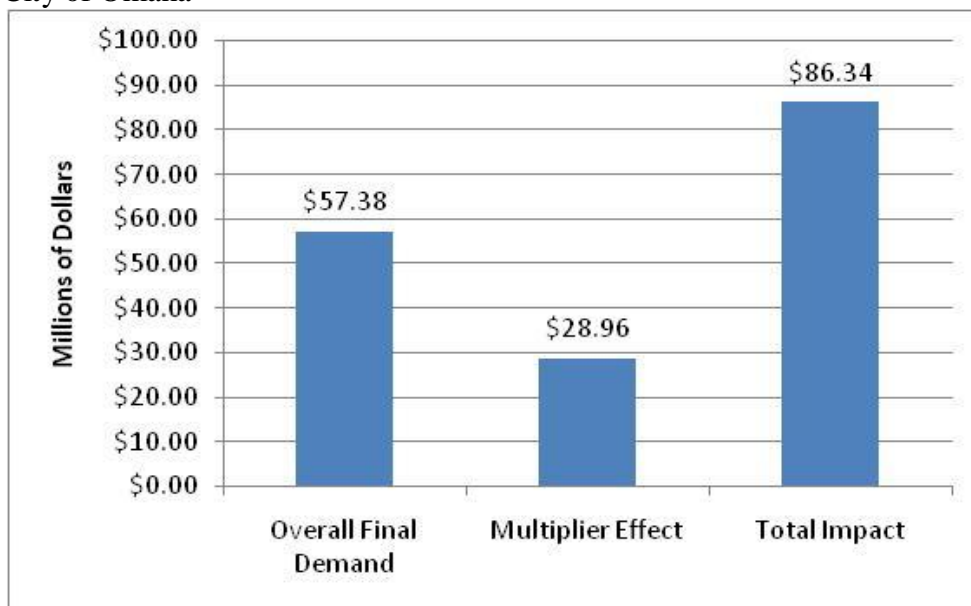


Source: Bureau of Business Research Estimates Using IMPLAN Model

D. Overall Economic Impact of the Henry Doorly Zoo

There are three components to the economic impact of the Henry Doorly Zoo: the impact of off-site spending that supports Zoo operations, the impact from Zoo construction projects, and the impact from off-site spending. Figure 6 shows overall economic impact of the Henry Doorly Zoo from all three components. The total economic impact on the City of Omaha was \$86.3 million in 2007.

Figure 6
2007 Overall Economic Impact of Henry Doorly Zoo
City of Omaha



Source: Bureau of Business Research Estimates Using IMPLAN Model

Labor income is an important component of this economic impact. Labor income includes the wages and benefits earned by workers and the income earned by proprietors. Table 3 again shows the overall economic impact of the Henry Doorly Zoo. It also shows the worker earnings component of the economic impact, and the employment associated with those earnings. The \$86.3 million economic impact in 2007 included a \$31.1 million impact on labor income. There were nearly 1,200 jobs associated with that impact. These represent year-round equivalents, however, so the actual employment impact during peak summer months could be substantially higher, and substantially lower during off-peak periods.

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

The Henry Doorly Zoo not only provides employment opportunities for Omaha workers, the Zoo also generates sales tax revenue for the City of Omaha. As seen in Table 3, the additional economic activity in Omaha due to the Zoo generates an additional \$1.4 million in local sales, use and lodging tax revenues for the City. The local option sales tax (1.5%) accrues to the City of Omaha, as does the occupation tax (4%) portion of the lodging tax. The other (4%) part of the lodging tax accrues initially to Douglas County but much of it eventually goes to benefit the City of Omaha.

Table 3
Labor Income and Employment Component of Economic Impact
of the Henry Doorly Zoo 2007
City of Omaha

Economic Impact (Millions of \$)	Labor Income Component (Millions of \$)	Employment Impact (Jobs)	Local Sales, Use and Lodging Tax (Millions of \$)
\$86.34	\$31.07	1,205	\$1.39

Source: Bureau of Business Research Estimates Using IMPLAN Model

IV. Economic Impact on the State of Nebraska

In this section, we estimate the economic impact of the Henry Doorly Zoo on the State of Nebraska. Overall, the statewide impact from the Henry Doorly Zoo (or any other Omaha attraction) is smaller than the City of Omaha impact, because fewer visitors are new to the State of Nebraska than to the City of Omaha. For example, a visitor to the Henry Doorly Zoo from Lincoln would bring new spending to the City of Omaha but would not bring new spending to the State of Nebraska. Thus the statewide impact of the Henry Doorly Zoo will be smaller than the economic impact on the City of Omaha.

The size of the estimated economic impact depends on the share of spending at the Zoo, or off-site, that is new to Nebraska, or retained in Nebraska. As noted earlier, the Zoo attracts many visitors from outside of the state of Nebraska. In particular, 34.4% of the Zoo's 1.3 million visitors in 2007 came from outside of the State of Nebraska. These visitors bring new spending to the State. Further, as in Table 2, the amount of spending is higher for visitors that come from out of state, or more distant areas of out-state Iowa such as the Des Moines area or the Sioux City area. Also, a portion of spending by Nebraska visitors to the Omaha's Henry Doorly Zoo represents "retained" spending for

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

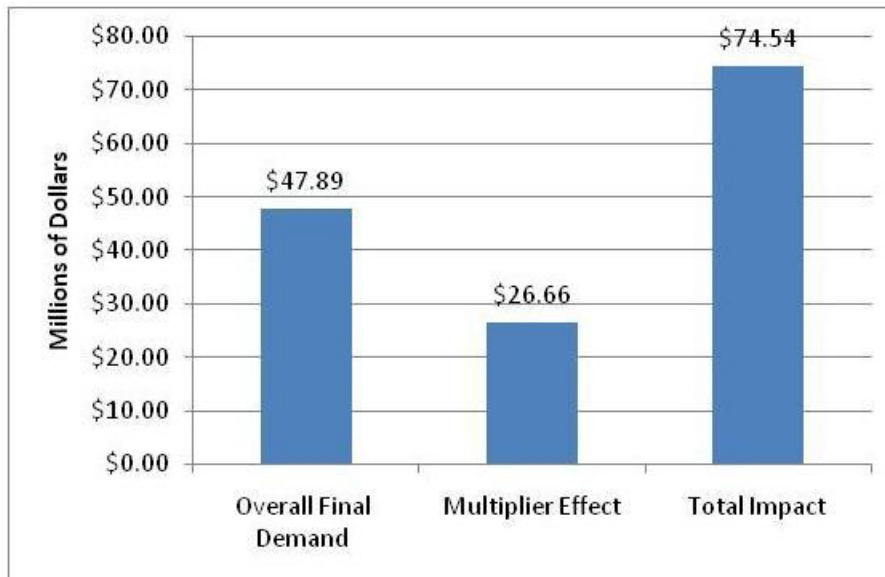
the State. As was true for the City of Omaha, a portion of Nebraska visitors would travel outside of Nebraska to another zoo if the Henry Doorly Zoo was not available within the State.

Overall, the Henry Doorly Zoo attracted or retained an estimated \$47.9 million in new spending to Nebraska in 2007. This new spending occurred both at the Zoo and off-site. As is seen in Figure 5, this \$47.9 million direct effect (i.e., final demand) leads to a total economic impact of \$74.5 million.

The impact in terms of labor income and jobs is presented in Table 4. The labor income component of the economic impact is \$24.8 million. The state sales and use (5.5%) and lodging (1%) tax impact was \$3.6 million in 2007.

Note that the statewide economic impact should not be added to the City of Omaha economic impact. In many case, the two impact estimates measure the effect of the same visitors on the economy of two overlapping geographies – the city and the state. However, the local and state sales tax impacts can be added. Therefore, the overall state and local sales, use, and lodging tax impact was estimated at \$5.0 million in 2007.

Figure 7
2007 Overall Economic Impact of Henry Doorly Zoo
State of Nebraska



Source: Bureau of Business Research Estimates Using IMPLAN Model.

Table 4

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

Labor Income and Employment Component of Economic Impact
of the Henry Doorly Zoo 2007
State of Nebraska

Economic Impact (Millions of \$)	Labor Income Component (Millions of \$)	Employment Impact (Jobs)	State Sales, Use and Lodging Tax (Millions of \$)
\$74.54	\$24.80	1,047	\$3.58

Source: Bureau of Business Research Estimates Using IMPLAN Model

V. Other Benefits

The Henry Doorly Zoo generates many additional benefits for the Omaha area economy by providing local recreation and learning opportunities for Omaha residents and by providing employment and scholarship opportunities in the Omaha area for young residents. By providing recreation opportunities locally, the Zoo raises the quality of life in the Omaha area. Later in this section, we explore research that has estimated the economic impact of zoos on the quality of life in the metropolitan areas.

The employment and scholarship opportunities benefit young people who are employed at the Zoo. The Zoo employs hundreds of young people during the summer in order to meet peak visitor demand at the Zoo. In doing so, however, the Henry Doorly Zoo also provides many young people their first employment opportunity, or one of their first employment opportunities. Young workers can be difficult to monitor, but the effort made by the Zoo and other employers that hire young workers creates benefits. In particular, early employment opportunities allow young workers to build their basic job skills such as punctuality, professionalism, customer relations, responsibility, and interacting with co-workers. Building such skills raises the productivity and earnings potential of young workers later in life. The scholarship opportunities offered by the Zoo also benefit young workers by providing an incentive to pursue a post-secondary degree.

A. Scholarship Program

The Henry Doorly Zoo operates a scholarship program that helps young workers pay for their post-secondary education. These scholarships can be viewed as additional compensation for young employees. However, it is appropriate to consider these scholarships as more than just compensation. After all, Zoo scholarships, like most such

scholarships, encourage young Zoo employees to pursue a post-secondary education. The scholarships thus increase the productivity of the workforce for years into the future. Table 5 lists the number and the total value of scholarships awarded during the years 2006 and 2007. As is evident, there are hundreds of young people who benefit from the scholarship program each year.

Table 5
Activity in Scholarship Program

Year	Number of Scholarships	Total Value of Scholarships
2006	155	\$67,000
2007	216	\$78,850

Source: Omaha's Henry Doorly Zoo

B. Benefits for Quality of Life

The Henry Doorly creates quality-of-life benefits for residents of Omaha and the State of Nebraska. The reason is that because of the Henry Doorly Zoo, residents of Omaha enjoy quick access to a very high quality zoo. Residents of other communities, such as Des Moines, IA have to spend much additional time and money to travel to visit such a zoo. This improved access tends to raise the quality of life in Omaha relative to other cities without high quality zoos, a fact which is reflected in both relative wages and property values. For example, property values would be higher in a City with a zoo than in another without a zoo. Residents of that city would be willing to pay a few dollars more per year due to their easy access to a zoo, and would still be equally as content as residents living in a city without a zoo.⁷

There have been efforts to estimate the specific amenity value of zoos. Such studies would produce an estimate of the value of a zoo to the average household in a metropolitan area. One such study⁸ estimated that the average household in a

⁷ Of course, other amenities such as climate, sports teams, arts organizations, and others also influence the relative wages and property values of cities.

⁸ Clark, David E. and James R. Kahn, 1988. "The Social Benefits of Urban Cultural Amenities," *Journal of Regional Science*. 28(3): 363-377.

metropolitan area places a value of \$172, adjusting for inflation, on the presence of a zoo. This figure is an estimate of the amenity value of the average metropolitan area zoo. The estimate is therefore likely an underestimate in the amenity value of the Henry Doorly Zoo, which as was pointed out earlier, is one of the top zoos in the United States according to a variety of measures.

The estimates of amenity value per household can be used to estimate the aggregate amenity value of the zoo for all residents of the City of Omaha. The average value is multiplied by the 171,000 households estimated to be present in Omaha during the year 2007 to yield an estimate of a total amenity value of \$29.3 million from the Henry Doorly Zoo for the City of Omaha.

The statewide amenity value is naturally much higher, and would include the impact of the 171, 000 Omaha households plus countless other households in other metropolitan area counties such as Sarpy, Washington, Cass, and Saunders County. A smaller amenity value would also exist for Nebraska counties outside of the metropolitan area. However, the per household estimate of \$172 was based on valuations of households located within the same metropolitan area as the zoo. The \$172 estimates, therefore, cannot be applied to households located outside of the metropolitan area. As a result, to derive the amenity value of the Henry Doorly Zoo for the State of Nebraska we will only apply the \$172 value estimate to the estimated 277,000 households in the 5 Nebraska counties located in the Omaha MSA. This is naturally an underestimate of the true statewide impact but is the best estimate that is available. Using this approach, the total amenity value of the Henry Doorly Zoo for the State of Nebraska is estimated at \$47.5 million in 2007.

Both of these estimates are substantial. This amenity value created by the Zoo is clearly an important a part of the economic consequences of the Henry Doorly Zoo.

VI. Economic Impact in Past Years

As illustrated for 2007, the annual economic impact of the Henry Doorly Zoo is generated by strong attendance and visitor spending and by donor support for major construction projects to develop new exhibits. These conditions have in fact prevailed at the Zoo for an extended period of time. As a result, the Zoo has consistently created a substantial economic impact for both Omaha and the State of Nebraska.

In this section, we utilize the techniques and measures used to estimate the economic impact of Henry Doorly Zoo in 2007 to estimate the annual economic impact over the past decade, from 1998 through 2006. Results do show a substantial annual economic impact throughout the period. Again, we examine the annual impact from the three main sources of: Zoo operations, Zoo construction projects, and off-site expenditures by Zoo visitors. This look at economic impact over the last decade is possible because of the detailed financial and visitor information that has been maintained by Zoo staff during the period.

Below, we report the attendance, revenue, and construction spending for the Henry Doorly Zoo during the 1998 to 2006 period. These are the key annual statistics from the Zoo that drive economic impact estimates. We also report information on the origin of Zoo visitors. Total attendance from outside of Omaha is key to the Omaha economic impact from off-site visitors spending, while attendance from outside of Nebraska is key for the state impact. Data from 1998 to 2003 were taken from a parking lot survey of license plates rather than a zip code survey.

Data in Table 6 show a modest improvement in attendance and a steady improvement in zoo revenue over the decade, and peak years for attendance in 2002 and 2004. There was great variability in the level of construction spending, as investment opportunities in new exhibits and venues became available. These trends suggest a modest increase in the annual economic impact over time, with the greatest impact during peak attendance years such as 2002 and 2004. Figure 8 shows the trends in economic impact. Average annual impacts improved modestly from the late 1990s through 2005 and 2006. At the same time, 2002 and 2004 were peak years for economic impact as attendance surged.

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

Overall, these results suggest that our impact estimate for the year 2007 (\$86 million) was very consistent and typical of the economic impact of the Zoo over the last decade. However, the impact in 2007 was low compared to “peak” years such as 2002 and 2004. In particular, the Henry Doorly Zoo can create a heightened economic impact of near \$110 million in years where major new exhibits attract high attendance.

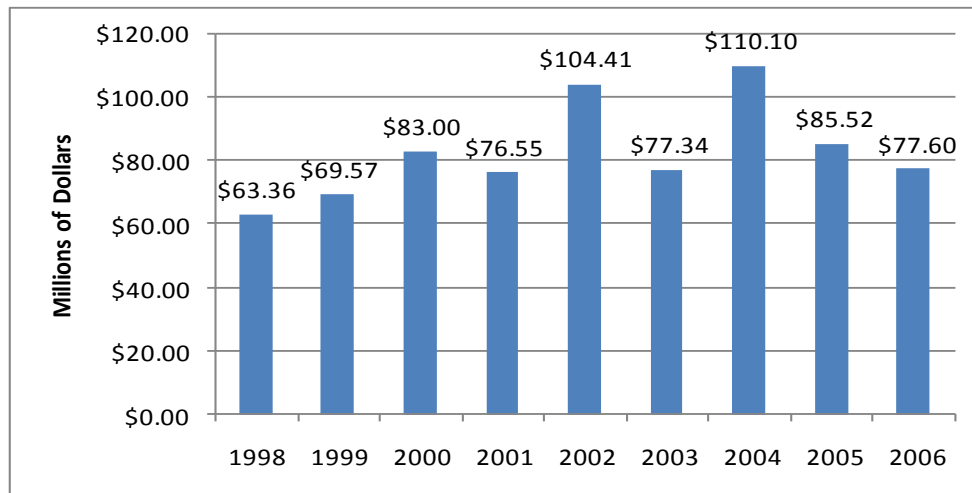
Table 6
Attendance, Revenue, and Construction Activity 1998-2006

Year	Attendance	% from Outside of Omaha	% from Outside of Nebraska	Zoo Revenue (Millions of \$)	Value of Zoo Construction Projects (Millions of \$)
1998	1,108,334	57.9%	27.6%	\$15.72	\$3.15
1999	1,148,767	55.3%	26.4%	\$16.09	\$6.51
2000	1,168,590	57.0%	27.9%	\$17.46	\$12.77
2001	1,178,339	54.7%	25.2%	\$15.87	\$10.02
2002	1,420,555	62.3%	31.5%	\$20.03	\$6.45
2003	1,147,961	58.4%	27.3%	\$20.04	\$8.71
2004	1,535,662	57.2%	26.6%	\$21.22	\$11.94
2005	1,347,390	58.0%	24.8%	\$22.92	\$8.09
2006	1,281,904	64.1%	32.5%	\$26.44	\$5.73

Source: Omaha's Henry Doorly Zoo

Note: Results from 2003 parking lot survey could not be used in analysis. 2003 estimates for % from Outside of Omaha and Nebraska are average of values from 2000, 2001, 2005, and 2006 surveys.

Figure 8
Economic Impact of the Henry Doorly Zoo 1998-2006
City of Omaha



Source: Bureau of Business Research Estimates Using IMPLAN Model

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

As in 2007, labor income was an important component of this annual economic impact over the last decade. Table 7 repeats the annual economic impact estimate from Figure 8 but also provides an estimate of the labor market impacts, as well as tax impacts. The labor income component of the economic impact also grew modestly over the 1998 to 2006 period, with peak impacts in 2002 and 2004. Depending on the year, the Henry Doorly Zoo created an annual labor income impact of between \$22 and \$40 million dollars for Omaha area workers. The employment impact, by contrast, was steady over the ten year period, with peaks in 2002 and 2004. This result is very consistent with the labor income impact, since rising wages and inflation would be expected to increase wages per jobs modestly over time. Local tax revenue impacts, like the economic impact, rose modestly over the 1998 to 2006 period.

Table 7
Labor Income and Employment Component of Economic Impact
of the Henry Doorly Zoo 1998-2006
City of Omaha

Year	Economic Impact (Millions of \$)	Labor Income Component (Millions of \$)	Employment Impact (Jobs)	Local Sales, Use and Lodging Tax (Millions of \$)
1998	\$63.36	\$22.17	1,119	\$1.24
1999	\$69.57	\$24.69	1,178	\$1.27
2000	\$83.00	\$30.09	1,318	\$1.38
2001	\$76.55	\$27.55	1,200	\$1.29
2002	\$104.41	\$36.75	1,662	\$2.00
2003	\$77.34	\$28.07	1,178	\$1.26
2004	\$110.10	\$39.32	1,636	\$1.91
2005	\$85.52	\$30.74	1,242	\$1.40
2006	\$77.60	\$28.07	1,106	\$1.21

Source: Bureau of Business Research Estimates Using IMPLAN Model

Table 8 shows the economic impact of the Henry Doorly Zoo on the State of Nebraska. The statewide economic impact differs from the Omaha impact, since many out of town visitors to the Henry Doorly Zoo come from throughout the State of Nebraska. However, the same basic patterns are evident. The Zoo brought substantial economic impacts to the State of Nebraska each year during the 1998 through 2006 period, with significantly larger impact during the peak years of 2002 and 2004. Further,

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

the estimated impact of \$74.5 million for 2007 was very consistent with the historical estimates in Table 8. A significant state sales and lodging tax is generated for Nebraska throughout the period. The state tax impact is larger given that the state portion of the sales and use tax (5.5%) is more than 3 times greater than the local portion (1.5%). Annual tax revenues varied from a low of \$2.9 million to more than \$4.2 million during the peak years of 2002 and 2004.

Table 8
Labor Income and Employment Component of Economic Impact
of the Henry Doorly Zoo 1988-2006
State of Nebraska

Year	Economic Impact (Millions of \$)	Labor Income Component (Millions of \$)	Employment Impact (Jobs)	State Sales, Use and Lodging Tax (Millions of \$)
1998	\$61.81	\$19.80	1,117	\$2.87
1999	\$71.54	\$23.32	1,240	\$3.27
2000	\$84.39	\$28.34	1,372	\$3.74
2001	\$79.20	\$26.28	1,269	\$3.58
2002	\$95.74	\$31.09	1,556	\$4.37
2003	\$86.29	\$28.72	1,109	\$3.91
2004	\$92.68	\$30.95	1,386	\$4.27
2005	\$72.84	\$24.24	1,061	\$3.51
2006	\$65.20	\$21.86	931	\$3.15

Source: Bureau of Business Research Estimates Using IMPLAN Model

VII. Conclusion

Omaha's Henry Doorly Zoo attracts tens of millions of dollars of new spending to the City of Omaha, and the State of Nebraska, which support both Zoo operations and businesses throughout Omaha that cater to visitors. By providing a major local attraction, the Zoo also helps retain entertainment spending by Omaha residents within the City, rather than losing that spending to competing cities.

Both new and retained spending leads to a substantial economic impact on the City of Omaha and the State of Nebraska. In 2007, the estimated economic impact of the Omaha's Henry Doorly Zoo on the City of Omaha was \$86.3 million. A substantial

The 2007 Economic and Fiscal Impact of Omaha's Henry Doorly Zoo

component of this impact, \$31.1 million, was labor income, which is the wages and benefits of workers or the income of the self-employed.

The estimated economic impact of the Henry Doorly Zoo on the State of Nebraska was \$74.5 million in 2007. The state impact is somewhat smaller than the City impact since a smaller share of visitor spending is new to the state. In particular, visitors to the Zoo from cities such as Lincoln, Nebraska bring new spending to the City of Omaha, but do not bring new money to the state.

In addition to its economic impact, the Henry Doorly Zoo also has a substantial quality of life benefit for residents of Omaha and the State of Nebraska. The amenity value for local and state residents from nearby access to the Henry Doorly Zoo was estimated at \$29.3 million for residents of Omaha, and \$47.5 million statewide.

Finally, the 2007 economic impact of the Henry Doorly Zoo was typical of those seen over the last 10 years. However, the impact in 2007 was low compared to “peak” years such as 2002 and 2004.